

Claims

Claim 1 (currently amended): An aqueous, antimicrobial hand cleansing liquid formulation ~~that is dispensed as a foam comprising:~~

an antimicrobial agent having a phenol moiety; and

between about 5% by weight and about 20% by weight of a first anionic surfactant wherein the viscosity of the formulation is about 10 centipoise at 24° C for enhancing attributes that enable ease of delivery through a foam dispenser.

Claim 2 (original): The formulation of claim 1 wherein the antimicrobial agent is selected from the group consisting of triclosan and para-chlorometa-xyleneol.

Claim 3 (original): The formulation of claim 2 further comprising either a second anionic surfactant, a nonionic surfactant, an amphoteric surfactant, or a combination of surfactants, and wherein the formulation comprises between about 20.5% by weight and about 35% by weight of the combined surfactants.

Claim 4 (original): The formulation of claim 3 wherein the formulation is free of thickeners.

Claim 5 (original): The formulation of claim 4 wherein the pH of the formulation is between 5 and 8.

Claim 6 (original): The formulation of claim 4 wherein the pH of the formulation is between 7 and 8.

Claim 7 (original): The formulation of claim 1 wherein the first anionic surfactant is a foam boosting anionic surfactant.

Claim 8 (original): The formulation of claim 7 wherein the first anionic surfactant is a C₈-C₁₈ acylisethionate.

Claim 9 (original): The formulation of claim 8 wherein the first anionic surfactant is ammonium cocoyl isethionate.

Claim 10 (original): The formulation of claim 3 wherein the second anionic surfactant is between about 2% by weight and about 12% by weight of the formulation.

Claim 11 (original): The formulation of claim 10 wherein the antimicrobial agent is soluble in the second anionic surfactant.

Claim 12 (original): The formulation of claim 11 wherein the second anionic surfactant is selected from the group consisting of sulfated alkyl phenol ethoxylates, alkyl-aryl sulfonates, aliphatic sulfonates, and aromatic sulfonates.

Claim 13 (original): The formulation of claim 3 wherein the amphoteric surfactant is between about 2% by weight and about 12% by weight of the formulation.

Claim 14 (original): The formulation of claim 13 wherein the amphoteric surfactant is a foam building amphoteric surfactant.

Claim 15 (original): The formulation of claim 14 wherein the amphoteric surfactant is selected from the group consisting of ammonium fatty sulfo succinates, alkanolamides, and amine oxides.

Claim 16 (original): The formulation of claim 3 wherein the nonionic surfactant is between about 1% by weight and about 6% by weight of the formulation.

Claim 17 (original): The formulation of claim 16 wherein the nonionic surfactant is selected from a group consisting of oxypropylene and oxyethylene condensates having a molecular weight range between 1000 and 15,000, alkylphenol ethoxylates and primary alcohol ethoxylates.

Claim 18 (currently amended): An aqueous, antimicrobial formulation ~~to be dispensed from a foam forming device comprising:~~

an antimicrobial agent having a phenol moiety;

between about 5% by weight and about 20% by weight of a first anionic surfactant;

a second anionic surfactant

an amphoteric surfactant;

a nonionic surfactant; and

a non-aqueous solvent wherein the viscosity of the formulation is about 10 centipoise at 24° C for enhancing attributes that enable ease of delivery through a foam dispenser.

Claim 19 (original): The formulation of claim 18 wherein the antimicrobial agent is selected from the group consisting of triclosan and para-chlorometa-xlenol.

Claim 20 (original): The formulation of claim 18 wherein the formulation comprises between about 20.5% by weight and about 35% by weight of the combined surfactants.

Claim 21 (original): The formulation of claim 18 wherein the first anionic surfactant is a foam boosting anionic surfactant.

Claim 22 (original): The formulation of claim 21 wherein the first anionic surfactant is a C₈-C₁₈ acylisethionate.

Claim 23 (original): The formulation of claim 22 wherein the first anionic surfactant is ammonium cocoyl isethionate.

Claim 24 (original): The formulation of claim 20 wherein the second anionic surfactant is between about 2% by weight and about 12% by weight of the formulation.

Claim 25 (original): The formulation of claim 24 wherein the antimicrobial agent is soluble in the second anionic surfactant.

Claim 26 (original): The formulation of claim 25 wherein the second anionic surfactant is selected from the group consisting of sulfated alkyl phenol ethoxylates, alkyl-aryl sulfonates, aliphatic sulfonates, and aromatic sulfonates.

Claim 27 (original): The formulation of claim 20 wherein the amphoteric surfactant is between about 2% by weight and about 12% by weight of the formulation.

Claim 28 (original): The formulation of claim 27 wherein the amphoteric surfactant is a foam building amphoteric surfactant.

Claim 29 (original): The formulation of claim 28 wherein the amphoteric surfactant is selected from the group consisting of ammonium fatty sulfo succinates, alkanolamides, and amine oxides.

Claim 30 (original): The formulation of claim 20 wherein the nonionic surfactant is between about 1% by weight and about 6% by weight of the formulation.

Claim 31 (original): The formulation of claim 30 wherein the nonionic surfactant is selected from a group consisting of oxypropylene and oxyethylene condensates having a molecular weight range between 1000 and 15,000, alkylphenol ethoxylates and primary alcohol ethoxylates.

Claim 32 (original): The formulation of claim 20 wherein the non-aqueous solvent is between about 1% by weight and about 8% by weight of the formulation.

Claim 33 (original): The formulation of claim 32 wherein the non-aqueous solvent is selected from a group consisting of glycols, alcohols, ethyl acetate, acetone, and triacetin.

Claim 34 (original): The formulation of claim 18 wherein the pH of the formulation is between 5 and 8.

Claim 35 (original): The formulation of claim 18 wherein the pH of the formulation is between 7 and 8.

Claim 36 (original): The formulation of claim 18 wherein the formulation is free of thickeners.

Claim 37 (currently amended): An aqueous, foamable antimicrobial hand cleansing liquid formulation ~~that is dispensed as a foam~~ comprising:

an antimicrobial agent having a phenol moiety; and

between about 20.5% by weight and about 35% by weight of a combination of anionic, amphoteric, and nonionic surfactants wherein the viscosity of the formulation is about 10 centipoise at 24° C for enhancing attributes that enable ease of delivery through a foam dispenser.

Claim 38 (original): The formulation of claim 37 wherein the antimicrobial agent is selected from the group consisting of triclosan and para-chlorometa-xyleneol.

Claim 39 (original): The formulation of claim 37 wherein the anionic surfactant is between about 7% by weight and about 22% by weight of the formulation.

Claim 40 (original): The formulation of claim 37 wherein the anionic surfactant is a combination of a first anionic surfactant and a second anionic surfactant.

Claim 41 (original): The formulation of claim 40 wherein the first anionic surfactant is between 5% by weight and 20% by weight of the formulation.

Claim 42 (original): The formulation of claim 41 wherein the first anionic surfactant is a foam boosting anionic surfactant.

Claim 43 (original): The formulation of claim 42 wherein the first anionic surfactant is a C₈-C₁₈ acylisethionate.

Claim 44 (original): The formulation of claim 43 wherein the first anionic surfactant is ammonium cocoyl isethionate.

Claim 45 (original): The formulation of claim 40 wherein the second anionic surfactant is between 2% by weight and 12% by weight of the formulation.

Claim 46 (original): The formulation of claim 45 wherein the antimicrobial agent is soluble in the second anionic surfactant.

Claim 47 (original): The formulation of claim 46 wherein second anionic surfactant is selected from the group consisting of sulfated alkyl phenol ethoxylates, alkyl-aryl sulfonates, aliphatic sulfonates, and aromatic sulfonates.

Claim 48 (original): The formulation of claim 37 wherein the amphoteric surfactant is between about 2% by weight and about 12% of the formulation.

Claim 49 (original): The formulation of claim 48 wherein the amphoteric surfactant is a foam building amphoteric surfactant.

Claim 50 (original): The formulation of claim 49 wherein the amphoteric surfactant is selected from the group consisting of ammonium fatty sulfo succinates, alkanolamides, and amine oxides.

Claim 51 (original): The formulation of claim 37 wherein the nonionic surfactant is between about 1% by weight and about 6% by weight of the formulation.

Claim 52 (original): The formulation of claim 51 wherein the nonionic surfactant is selected from a group consisting of oxypropylene and oxyethylene condensates having a molecular weight range between 1000 and 15,000, alkylphenol ethoxylates and primary alcohol ethoxylates.

Claim 53 (original): The formulation of claim 37 wherein the pH of the formulation is between 5 and 8.

Claim 54 (original): The formulation of claim 37 wherein the pH of the formulation is between 7 and 8.

Claim 55 (original): The formulation of claim 37 wherein the formulation is free of thickeners.

Claim 56 (currently amended): An aqueous, antimicrobial formulation ~~to be dispensed from a foam forming device comprising:~~

between about 0.5% by weight and about 4% by weight of an antimicrobial agent having a phenol moiety;

between about 5% by weight and about 20% by weight of a first anionic surfactant;

between about 2% by weight and 12% by weight of a second anionic surfactant;

between about 2% by weight and about 12% by weight of an amphoteric surfactant;

between about 1% by weight and about 6% by weight of a nonionic surfactant; and

between about 1% by weight and about 8% by weight of a non-aqueous solvent wherein the viscosity of the formulation is about 10 centipoise at 24° C for enhancing attributes that enable ease of delivery through a foam dispenser.

Claim 57 (original): The formulation of claim 56 wherein the antimicrobial agent is selected from the group consisting of triclosan and para-chlorometa-xlenol.

Claim 58 (original): The formulation of claim 56 wherein the first anionic surfactant is a foam boosting anionic surfactant.

Claim 59 (original): The formulation of claim 58 wherein the first anionic surfactant is a C₈-C₁₈ acylisethionate.

Claim 60 (original): The formulation of claim 59 wherein the first anionic surfactant is ammonium cocoyl isethionate.

Claim 61 (original): The formulation of claim 56 wherein the antimicrobial agent is soluble in the second anionic surfactant.

Claim 62 (original): The formulation of claim 61 wherein the second anionic surfactant is selected from the group consisting of sulfated alkyl phenol ethoxylates, alkyl-aryl sulfonates, aliphatic sulfonates, and aromatic sulfonates.

Claim 63 (original): The formulation of claim 56 wherein the amphoteric surfactant is a foam building amphoteric surfactant.

Claim 64 (original): The formulation of claim 63 wherein the amphoteric surfactant is selected from the group consisting of ammonium fatty sulfo succinates, alkanolamides, and amine oxides.

Claim 65 (original): The formulation of claim 56 wherein the nonionic surfactant is selected from a group consisting of oxypropylene and oxyethylene condensates having a molecular weight range between 1000 and 15,000, alkylphenol ethoxylates and primary alcohol ethoxylates.

Claim 66 (original): The formulation of claim 56 wherein the non-aqueous solvent is selected from a group consisting of glycols, alcohols, ethyl acetate, acetone, and triacetin.

Claim 67 (original): The formulation of claim 56 wherein the pH of the formulation is between 5 and 8.

Claim 68 (original): The formulation of claim 56 wherein the pH of the formulation is between 7 and 8.

Claim 69 (original): The formulation of claim 56 wherein the formulation is free of thickeners.

Claim 70 (currently amended): A method to foam a solution to be used for hand cleansing comprising the steps:

providing an aqueous solution comprising an antimicrobial agent having a phenol moiety; between about 5% by weight and about 20% by weight of a first anionic surfactant wherein the viscosity of the formulation is about 10 centipoise at 24° C for enhancing attributes that enable ease of delivery through a foam dispenser, and

dispensing the solution from a foam generating dispenser.

Claim 71 (original): The method of claim 70 wherein the antimicrobial agent is selected from the group consisting of triclosan and para-chlorometa-xlenol.

Claim 72 (original): The method of claim 70 wherein the solution further comprises either a second anionic surfactant, a nonionic surfactant, an amphoteric surfactant, or a combination of surfactants, and wherein the formulation comprises between about 20.5% by weight and about 35% by weight of the combined surfactants.

Claim 73 (original): The method of claim 70 wherein the anionic surfactant is a foam boosting anionic surfactant.

Claim 74 (original): The method of claim 73 wherein anionic surfactant is a C₈-C₁₈ acylisethionate.

Claim 75 (original): The method of claim 74 wherein the anionic surfactant is ammonium cocoyl isethionate.

Claim 76 (original): The method of claim 72 wherein the second anionic surfactant is between about 2% by weight and about 12% by weight of the formulation.

Claim 77 (original): The method of claim 76 wherein the antimicrobial agent is soluble in the second anionic surfactant.

Claim 78 (original): The method of claim 77 wherein the second anionic surfactant is selected from the group consisting of sulfated alkyl phenol ethoxylates, alkyl-aryl sulfonates, aliphatic sulfonates, and aromatic sulfonates.

Claim 79 (original): The method of claim 72 wherein the amphoteric surfactant is between about 2% by weight and about 12% by weight of the formulation.

Claim 80 (original): The method of claim 79 wherein the amphoteric surfactant is a foam building amphoteric surfactant.

Claim 81 (original): The method of claim 80 wherein the amphoteric surfactant is selected from the group consisting of ammonium fatty sulfo succinates, alkanolamides, and amine oxides.

Claim 82 (original): The method of claim 72 wherein the nonionic surfactant is between about 1% by weight and about 6% by weight of the formulation.

Claim 83 (original): The method of claim 82 wherein the nonionic surfactant is selected from a group consisting of oxypropylene and oxyethylene condensates having a molecular weight range between 1000 and 15,000, alkylphenol ethoxylates and primary alcohol ethoxylates.

Claim 84 (original): The method of claim 70 wherein the pH of the formulation is between 5 and 8.

Claim 85 (original): The method of claim 70 wherein the pH of the formulation is between 7 and 8.

Claim 86 (original): The formulation of claim 70 wherein the formulation is free of thickeners.